

SECTION 08212 - STILE AND RAIL WOOD DOORS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Interior stile and rail wood doors with raised panels.
 - 2. Interior stile and rail wood doors with glass panels only.
 - 3. Interior stile and rail wood fire doors with raised panels.
 - 4. Factory finishing stile and rail wood doors.
- B. Related Sections include the following:
 - 1. Division 8 Section "Glazing" for glass view panels in stile and rail wood doors.

1.3 SUBMITTALS

- A. Product Data: For each type of door. Include details of construction and glazing.
 - 1. Include factory-finishing specifications.
- B. Shop Drawings: Indicate location, size, and hand of each door; elevation of each kind of door; construction details not covered in Product Data, including those for stiles, rails, panels, and moldings (sticking); and other pertinent data.
 - 1. Indicate dimensions and locations of mortises and holes for hardware.
 - 2. Indicate fire ratings for fire doors.



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- C. Samples for Initial Selection: Color charts consisting of actual materials in small sections for faces of factory-finished doors with transparent finish.
 - D. Samples for Verification: Corner sections of doors approximately 8 by 10 inches (200 by 250 mm) showing edges, faces, joinery, and material qualities of typical stile, rail, molding, and panel for each species and door type.
 - 1. Finish sample with same materials proposed for factory-finished doors.
 - E. Product Certificates: Signed by door manufacturers certifying that the products furnished comply with requirements.

1.4 QUALITY ASSURANCE

- A. Source Limitations: Obtain stile and rail wood doors through one source from a single manufacturer.
- B. Quality Standard: Comply with the following standard:
 - 1. NWWDA Quality Standard: NWWDA I.S.6, "Industry Standard for Wood Stile and Rail Doors." Mark, label, or otherwise identify stile and rail wood doors as complying with NWWDA I.S.6.
- C. Fire-Rated Wood Doors: Doors complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to NFPA 252.
- D. Safety Glass: Provide products complying with ANSI Z97.1 and testing requirements of 16 CFR, Part 1201, for Category II materials.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Protect doors during transit, storage, and handling to prevent damage, soiling, and deterioration. Comply with requirements of referenced standard and manufacturer's instructions.
 - 1. Individually package doors in plastic bags or cardboard cartons.

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- B. Mark each door with individual opening numbers used on Shop Drawings. Use removable tags or concealed markings.

1.6 PROJECT CONDITIONS

- A. Environmental Limitations: Do not deliver or install doors until building is enclosed, wet-work is complete, and HVAC system is operating and will maintain temperature and relative humidity at occupancy levels during the remainder of the construction period.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Manufacturers: Manufacturers include, but are not limited to:
 - 1. Dimension Millworks.
 - 2. Eggers Industries; Architectural Door Division.
 - 3. Industrial Millwork Corporation; LAG Design.
 - 4. Maiman Company (The).
 - 5. Sun-Dor-Co.

2.2 STILE AND RAIL DOORS OF STOCK DESIGN AND CONSTRUCTION

- A. Interior Doors: Comply with the following requirements:
 - 1. NWWDA Grade for Transparent Finish: Premium or Select.
 - 2. Wood Species for Transparent Finish: Red oak, quarter sawed/sliced.
 - 3. Raised Panel Thickness: Manufacturer's standard, but not less than that required by NWWDA I.S.6 for design group indicated.
 - 4. Flat Panel Thickness: Manufacturer's standard, but not less than that required by NWWDA I.S.6 for design group indicated.
 - 5. Glass for Openings: Uncoated, clear, laminated glass made from two lights of 3.0-mm-thick annealed glass.

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6. Design and Layout: Panel design as described below under NWWDA design group, with minimum dimensions for stiles, rails, panels, and other elements complying with NWWDA I.S.6.
 - a. NWWDA Design Group: Interior Panel Doors.
 - 1) Panel Design: 88-109.

2.3 FABRICATION

- A. Fabricate stile and rail wood doors in sizes indicated for Project site fitting.
- B. Factory machine doors for hardware that is not surface applied. Locate hardware to comply with DHI-WDHS-3. Comply with final hardware schedules, door frame Shop Drawings, DHI A115-W series standards, and hardware templates.
 1. Coordinate measurements of hardware mortises in metal frames to verify dimensions and alignment before factory machining.
- C. Glazed Openings: Glaze doors at factory with glass of type and thickness indicated, complying with Division 8 Section "Glazing." Install glass using manufacturer's standard elastomeric glazing sealant complying with ASTM C 920. Secure glass in place with removable wood stops.
- D. Transom and Side Panels: Fabricate panels to match adjoining doors in materials, finish, and quality of construction.

2.4 FACTORY FINISHING

- A. General: Comply with referenced quality standard's requirements for factory finishing.
- B. Finish wood doors at factory.

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- C. Transparent Finish: Comply with requirements indicated for grade, finish system, staining effect, and sheen.
 - 1. Grade: Premium.
 - 2. Finish: Manufacturer's standard finish with performance requirements comparable to AWI System TR-6 catalyzed polyurethane.
 - 3. Staining: None required.
 - 4. Effect: Open-grain finish.
 - 5. Sheen: Satin.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine installed door frames before hanging doors.
 - 1. Verify that frames comply with indicated requirements for type, size, location, and swing characteristics and have been installed with plumb jambs and level heads.
 - 2. Reject doors with defects.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Hardware: For installation, see Division 8 Section "Door Hardware."
- B. Manufacturer's Written Instructions: Install wood doors to comply with manufacturer's written instructions, referenced quality standard, and as indicated.
 - 1. Install fire-rated doors in corresponding fire-rated frames according to NFPA 80.
- C. Job-Fit Doors: Align and fit doors in frames with uniform clearances and bev-els as indicated below; do not trim stiles and rails in excess of limits set by



manufacturer or permitted with fire-rated doors. Machine doors for hardware. Seal cut surfaces after fitting and machining.

1. Clearances: Provide **1/8 inch (3 mm)** at heads, jambs, and between pairs of doors. Provide **1/8 inch (3 mm)** from bottom of door to top of decorative floor finish or covering. Where threshold is shown or scheduled, provide **1/4 inch (6 mm)** from bottom of door to top of threshold.
 - a. Comply with NFPA 80 for fire-rated doors.
2. Bevel non-fire-rated doors **1/8 inch in 2 inches (3-1/2 degrees (0.6 radians))** at lock and hinge edges.
3. Bevel fire-rated doors **1/8 inch in 2 inches (3-1/2 degrees (0.6 radians))** on lock edge; trim stiles and rails only to extent permitted by labeling agency.

- D. Factory-Finished Doors: Restore finish before installation, if fitting or machining is required at Project site.

3.3 ADJUSTING AND PROTECTING

- A. Operation: Re-hang or replace doors that do not swing or operate freely.
- B. Finished Doors: Refinish or replace doors damaged during installation.
- C. Protect doors as recommended by door manufacturer to ensure that wood doors are without damage or deterioration at the time of Substantial Completion.

END OF SECTION 08212